A METHOD AND SYSTEM FOR IMAGE IMPROVEMENT WITH ECG GATING AND DOSE REDUCTION IN CT IMAGING

Abstract of Disclosure

A method and system for associating ECG waveform data with medical imaging data using ECG gating for dose reduction and image improvement by generating the ECG waveform data using an electrocardiogram device. The ECG data is first validated and then QRS complexes are detected using a detection function. An underlying cardiac rhythm based on the detected QRS complexes is analyzed and an even number N of substantially normally shaped consecutive QRS complexes are selected. An RR interval between consecutive QRS complexes is computed to yield N-1 intervals. Duration of a representative cardiac cycle by averaging at least a plurality of the N-1 intervals is determined. Once a representative cardiac cycle is determined, a method to control power and improve image quality with the presence of patient's having arrhythmias is disclosed.

Figures